03050205-070

(North Edisto River)

General Description

Watershed 03050205-070 is located in Charleston County and consists primarily of the ***North Edisto River*** and its tributaries. The watershed occupies 110,311 acres of the Coastal Zone region of South Carolina. The predominant soil types consist of an association of the Bohicket-Yonges-Kiawah-Foxworth-Wadmalaw series. The erodibility of the soil (K) averages 0.15, and the slope of the terrain averages 1%, with a range of 0-6%. Land use/land cover in the watershed includes: 33.8% forested land, 26.5% water, 15.0% agricultural land, 12.4% nonforested wetland (marsh), 8.4% forested wetland (swamp), 2.6% barren land, and 1.3% urban land.

The Dawho River joins the Wadmalaw River to form the North Edisto River (ORW), which drains into the Atlantic Ocean. There are a total of 381.1 acres of lake waters, and 11,600.4 acres of estuarine areas in this watershed. The Dawho River accepts drainage from the Edisto River watershed (03050205-060), Fishing Creek, and North Creek before merging with the Wadmalaw River. With the exception of North Creek (SFH), all these streams are classified ORW.

Upstream from the confluence, Church Creek (Raven Point Creek) flows into Wadmalaw Sound and is also connected to Bohicket Creek near Hoopstick Island. Also draining into the sound are the Stono River and Oyster House Creek. New Cut connects the Stono River to Church Creek. The Wadmalaw River flows out of Wadmalaw Sound and accepts drainage from Gibson Creek, Toogoodoo Creek (Lower Toogoodoo Creek, Swinton Creek), Wee Creek, and Tom Point Creek (also known as McLeod Creek) before merging with the Dawho River. Tom Point Creek is connected to Toogoodoo Creek through Garden Creek. Church Creek is classified ORW from Wadmalaw Sound to Raven Point Creek, and SFH from Raven Point Creek to Hoopstick Island. All the remaining streams are classified ORW.

Downstream from the confluence, Whooping Island Creek (Sand Creek) and Russel Creek join to form Steamboat Creek (Long Creek), which drains into the North Edisto River. Also draining into the North Edisto River are Westbank Creek, Leadenwah Creek, Bohicket Creek (Adams Creek, Fickling Creek), Ocella Creek, South Creek (Townsend River, Frampton Creek), and Privateer Creek. Frampton Creek and Townsend Creek (ORW) also drain directly into the ocean via Frampton Inlet (ORW). The Atlantic Intracoastal Waterway runs through Watts Cut and North Creek, down the Dawho River, up into the Wadmalaw River, through Wadmalaw Sound, and into the Stono River and the Santee River Basin.

Surface Water Quality

Station #	Type	Class	Description
RT-01665	RT01	SFH	DAWHO RIVER, 0.8 MI DOWNSTREAM OF S.C. 174
MD-120	P/INT	ORW	DAWHO RIVER AT SC 174, 9 MILES N OF EDISTO BEACH STATE PARK
MD-261	INT	SFH	YONGES ISLAND CREEK; MARKER #90
MD-195	P/W	SFH	CHURCH CREEK AT SC 700, 1 MILE SW OF CEDAR SPRINGS
MD-209	P/INT	ORW	BOHICKET CREEK AT FICKLING CREEK
RO-01145	RO01	SFH	BOHICKET CREEK NEAR CHERRY POINT LANDING NEAR ROCKVILLE
MD-210	S/W	ORW	BOHICKET CREEK MOUTH AT NORTH EDISTO RIVER

MD-262	INT	SFH	NORTH EDISTO RIVER AT LEADENWAH CREEK
RT-01652	RT01	SFH	TRIBUTARY TO OCELLA CREEK, 3 MI SW OF ROCKVILLE
MD-211	S/W	ORW	NORTH EDISTO RIVER MOUTH BETWEEN KIAWAH ISLAND & BOTANY BAY ISLAND

North Edisto River – There are two SCDHEC monitoring sites along the North Edisto River. This is a tidally influenced system with significant marsh drainage, characterized by naturally low dissolved oxygen concentrations. Although dissolved oxygen excursions were noted at both sites, they were typical of values seen in such systems and considered natural, not standards violations. Aquatic life and recreational uses are fully supported at the upstream site ***(MD-262)***. At the downstream site ***(MD-211)***, aquatic life uses are fully supported; however, there is a significant increasing trend in turbidity. There is a significant decreasing trend in pH. Prior to 2001, this was a secondary monitoring station and sampling was intentionally biased towards periods with potentially low dissolved oxygen concentrations. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter. Recreational uses are fully supported, and a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter.

Yonges Island Creek (MD-261) – Aquatic life uses are not supported due to turbidity excursions. This is a tidally influenced system with significant marsh drainage, characterized by naturally low dissolved oxygen concentration. Although dissolved oxygen excursions were noted, they were typical of values seen in such systems and are considered natural, not standards violations. Recreational uses are fully supported.

Tributary to Ocella Creek (RT-01652) – Aquatic life uses and recreational uses are fully supported. This is a tidally influenced system with significant marsh drainage, characterized by naturally low dissolved oxygen concentration. Although dissolved oxygen excursions were noted, they were typical of values seen in such systems and are considered natural, not standards violations.

Dawho River - There are two SCDHEC monitoring sites along the Dawho River, and recreational uses are fully supported at both sites. At the site outside of the main channel ***(RT-01665)***, aquatic life uses are not supported due to dissolved oxygen and turbidity excursions. At the site along the main channel ***(MD-120)***, aquatic life uses are again not supported due to dissolved oxygen and turbidity excursions. A very high concentration of lead and high concentrations of chromium and nickel were measured in the 2000 sediment sample. Lead exceeded the Effects Range Low (ERL) concentration but was less than the Effects Range Median (ERM) concentration. In the 1997 sediment sample, Chlordane exceeded the ERM concentration. Significant decreasing trends in five-day biochemical oxygen demand and total nitrogen concentration suggest improving conditions for these parameters at this site.

Church Creek (MD-195) - Aquatic life uses are not supported due to dissolved oxygen excursions, and there is also a significant increasing trend in turbidity. This is a tidally influenced system with significant marsh drainage, characterized by naturally low dissolved oxygen concentrations. Natural conditions in this stream may have contributed to the observed low dissolved oxygen values. Significant decreasing

trends in five-day biochemical oxygen demand and total nitrogen concentration suggest improving conditions for these parameters. Recreational uses are fully supported.

Bohicket Creek **-** There are three SCDHEC monitoring sites along Bohicket Creek, and recreational uses are fully supported at all sites. At the upstream site ***(MD-209)***, aquatic life uses are not supported due to dissolved oxygen excursions. There is a significant decreasing trend in pH. Significant decreasing trends in five-day biochemical oxygen demand and total phosphorus concentration suggest improving conditions for these parameters. High concentrations of chromium, lead and nickel were measured in the 1999 sediment sample. Lead exceeded the Effects Range Low (ERL) concentration but was less than the Effects Range Median (ERM) concentration. A significant decreasing trend in fecal coliform concentration suggests improving conditions for this parameter at this site. Further downstream ***(RO-01145)***, aquatic life uses are fully supported.

Near the confluence with the North Edisto River ***(MD-210)***, aquatic life uses are fully supported. Prior to 2001, this was a secondary monitoring station and sampling was intentionally biased towards periods with potentially low dissolved oxygen concentrations. A significant decreasing trend in five-day biochemical oxygen demand suggests improving conditions for this parameter. A very high concentration of cadmium was measured in the 1998 sediment sample. Cadmium exceeded the Effects Range Low (ERL) concentration but was less than the Effects Range Median (ERM) concentration. P,P' DDT was detected in the 1997 sediment sample. The measurement exceeded the ERL concentration, but was less than the ERM concentration. Although the use of DDT was banned in 1973, it is very persistent in the environment. This is a tidally influenced system with significant marsh drainage, which are often characterized by naturally low dissolved oxygen concentrations. Although dissolved oxygen excursions were noted, they were typical of values seen in such systems and considered natural, not standards violations.

Shellfish Monitoring Stations

Station #	Description
11-15	Stono River (AIWW) at Marker #63
12-48	First stormwater outfall in htwtrs of Sand Cr (1998-98)
12-49	Dock midway Stations 48&50 (1996-96)
12A-09	Adams Creek at Bohicket Creek
12A-10	Rockville Boat Landing
12A-11	Adams Creek between Adams Creek Marina and Shrimp Dock
12A-13	Bohicket Creek at Fickling Creek
12A-14	S.C. 700 bridge over Bohicket Creek
12A-20	Bohicket Creek opposite hoopstick Island
12A-21	Opposite old dam behind Rast House Restaurant
12A-22	Opposite Boy Scout Camp
12A-29	Raven Point Creek at confluence with Church Creek
12A-31	Southwest boundary of Prohibited Area at Bohicket Marina
12A-32	Privateer Creek up mile at fork
12A-38	Drainage discharge 1/8 mi E of power lines, N bank of Church Creek
12A-39	Confl. of Church Creek and small tidal Ck – 350 yds W S.C. 700 bridge, N side of Church Ck
12A-40	Pine Creek at first fork

Station #	Description
12A-41	CONFLUENCE OF CHURCH CREEK AND NEW CUT
12A-46	BOHICKET CREEK MIDWAY BETWEEN STA.. 21 AND 22 AT SMALL UNNAMED TRIBUTARY ON WEST BANK
12B-01	MOUTH OF CHURCH CREEK, MARKER #77
12B-02	GOSHEN POINT, MARKER #69
12B-03	YONGES ISLAND CREEK, AT CENTER OF METAL TRADE DOCK
12B-04	TOOGOODOO CREEK AT CONFLUENCE WITH AIWW, MARKER #102
12B-05	DAWHO CREEK, MARKER #110
12B-06	STEAMBOAT CREEK, MARKER #2
12B-07	WESTBANK CREEK AT NORTH EDISTO RIVER, OPPOSITE LEADENWAH CREEK
12B-08	LEADENWAH CREEK AT NORTH EDISTO RIVER
12B-09	DAWHO CREEK, MARKER #119
12B-10	SOUTH BOUNDARY OF PROTECTED AREA AT METAL TRADES DOCK
12B-12	LEADENWAH CREEK 1 MILE FROM CONFLUENCE WITH NORTH EDISTO RIVER
12B-30	TOM POINT CREEK AT PARK ISLAND
12B-33	CONFLUENCE OF OCELLA CREEK AND SOUTH CREEK
12B-34	TOOGOODOO CREEK SSG AT LAST CREEK BEFORE FORK
12B-35	PUBLIC BOAT RAMP, LOWER TOOGOODOO CREEK
12B-36	CONFLUENCE OF TOM POINT CREEK AND NORTH EDISTO RIVER
12B-37	CONFLUENCE OF STEAMBOAT CREEK AND RUSSELL CREEK
12B-42	HEADWATERS OF OCELLA CREEK
12B-43	RUSSELL CREEK AT ESTUARY ENTERING SUNBELT CLAM FARMS
12B-44	TOOGOODOO CREEK MIDWAY BETWEEN STATIONS 4 AND 34
12B-45	TOOGOODOO CREEK AT THE SECOND BEND PAST THE CONFLUENCE WITH LOWER TOOGOODOO CREEK
12B-47	SAND CREEK BRIDGE AT HWY 174
12B-50	SAND CREEK AT INTAKE TO WESTENDORF CLAM FARM
12B-51	WADMALAW SOUND AT DAY BEACON #80
12B-52	CONFLUENCE OF WHOOPING ISLAND CREEK AND STEAMBOAT CREEK
12B-53	DAWHO RIVER, MARKER #126
12B-54	TOM POINT CREEK, 3 BENDS UPSTREAM OF STATION #30
13-16	HIGHWAY 174 BRIDGE OVER NORTH CREEK (1993-98)
13-19	RUSSELL CREEK AT AREA 12/13 BOUNDARY (1993-98)

NPDES Program

Active NPDES Facilities

RECEIVING STREAM ***FACILITY NAME*** ***PERMITTED FLOW @ PIPE (MGD)***	***NPDES#*** ***TYPE*** ***COMMENT***
NORTH CREEK (AIWW & WHOOPING IS. CK) PARADISE SHRIMP FARMS OF S.C. PIPE #: 001 & 002 FLOW: M/R	SC0040401 MINOR INDUSTRIAL
BOHICKET CREEK TRIBUTARY THREE OAKS/CHICKEN FARM MINE PIPE #: 001 FLOW: M/R	SCG730083 MINOR INDUSTRIAL
WEE CREEK BEARS BLUFF NATIONAL FISH HATCHERY PIPE #: 001 FLOW: M/R	SC0047848 MINOR INDUSTRIAL

Nonpoint Source Management Program

Land Disposal Activities

Land Application Sites

LAND APPLICATION SYSTEM FACILITY NAME	*ND# TYPE*
SPRAY IRRIGATION ON GOLF COURSES TOWN OF SEABROOK ISLAND	ND0063347 DOMESTIC

Mining Activities

MINING COMPANY MINE NAME	*PERMIT # MINERAL*
GUY L. BUCKNER JOHNS ISLAND #1	0122-19 SAND
JOHNNY R. FREEMAN PRIVATE PROPERTY	1258-19 SAND; SAND/CLAY
RENTZ LANDCLEARING RENTZ MINE	0994-19 SAND; SAND/CLAY
LOIS CRIST TLC SERVICES TLC1 – BRODIE LAKE	1263-19 SAND; SAND/CLAY
CHARLESTON CO. PUBLIC WORKS DEPT. EDISTO PIT	1038-19 SAND; SAND/CLAY
LAFARGE MATERIALS, INC. JAMISON	0206-75 CLAY

Growth Potential

There is a low potential for growth in this rural agricultural-based watershed, which contains the Towns of Rockville, Seabrook Island and Meggett, and portions of the Town of Hollywood and the City of Charleston. The ORW classification of most of the waters in this watershed prohibits new point source discharges of wastewater to surface waters. Growth that occurs will have to rely on septic tanks and/or land application (ND) systems.